

CLAIM AMENDMENTS

1.(Withdrawn) A communication routing apparatus comprising:

input transmission line means;

output transmission line means;

input processing means for processing signals received within said communication routing apparatus from the input transmission line means into an intermediate form having predetermined characteristics, the processing of each signal being dependent on its source;

output processing means for processing said signals in said intermediate form within said communication routing apparatus, produced by the input processing means, into signals in selected forms, the processing of each signal being dependent on its destination; and

transmission means for transmitting signals from said communication routing apparatus, produced by the output processing means, via the output transmission line means to their destinations.

2. (Withdrawn) An apparatus according to claim 1, including means storing a plurality of input signal processing mapping definitions, wherein the input processing means is configured to select an input signal processing mapping definition in dependence on the source of the signal being processed and process said signal according to the selected input signal processing mapping definition to convert said signal into said intermediate form.

3. (Withdrawn) An apparatus according to claim 1, including means storing a plurality of output signal processing mapping definitions, wherein the output processing means is configured to select an output signal processing mapping definition in dependence on the destination of the signal being processed and process said signal according to the selected output signal

processing mapping definition to convert said signal into the form required according to its destination.

4. (Withdrawn) An apparatus according to claim 1, including storage means for storing signals produced by the input processing means, wherein the output processing means reads signals in said intermediate form from the storage means before processing them.

5. (Withdrawn) An apparatus according to claim 1, including storage means for storing signals, received by the input processing means, so as to maintain a record of received signals.

6. (Withdrawn) An apparatus according to claim 2, wherein the input processing means is adapted to determine the source of a received signal from a buffer location from which it is taken for processing and select the appropriate input mapping definition in dependence thereon.

7. (Withdrawn) An apparatus according to claim 6, wherein the input processing means is adapted to produce a plurality of signals in said intermediate form from a received signal comprising one transmission session.

8. (Withdrawn) An apparatus according to claim 3, wherein the output signal processing means is adapted to obtain a signal destination id from each intermediate form signal being processed and select the appropriate output mapping definition in dependence thereon.

9. (Withdrawn) An apparatus according to claim 8, wherein the output signal processing means is configured to send its output signals to buffer means selected in dependence on the destinations thereof.

10. (Withdrawn) An apparatus according to claim 2, wherein the input processing means is configured to apply the selected input mapping definitions to perform data format conversions on data represented by said received signals.

11. (Withdrawn) An apparatus according to claim 10, wherein the input processing means is configured to add data to that represented by said received signals.

12. (Withdrawn) An apparatus according to claim 3, wherein the output processing means is configured to apply the selected output mapping definitions to perform data format conversions on data represented by said intermediate form signals.

13. (Withdrawn) An apparatus according to claim 1, wherein the input and output signals represent data files.

14. (Withdrawn) An apparatus according to claim 1, wherein the intermediate format signals represent data in tables of a database.

15. (Withdrawn) An apparatus according to claim 14, wherein each table comprises data from a plurality of input signals and each input signal provides data for a plurality of tables of said database.

16.(Cancelled)

17. (Withdrawn) An apparatus according to claim 1, configured to process signal in layer of the OSI networking reference model.

18.(Previously Presented) An invoice routing apparatus comprising:

- an invoice receiver for receiving data corresponding to a plurality of invoices from a plurality of sources;

- a database for storing input invoice mapping definitions;

- an input processor device for processing the data corresponding to the plurality of received invoices within said invoice routing apparatus, the data for each invoice being converted by said input processor into an intermediate invoice in a standard intermediate form having predetermined characteristics and to provide the intermediate invoice in a data warehouse; the input processor configured to select an invoice mapping definition from the database in dependence on the sender of each received invoice and using the selected input invoice mapping definition when converting said data for the received invoice into said intermediate invoice;

- an output processor device configured to convert each of said intermediate form invoices obtained from the data warehouse into a final invoice in a form selected in dependence on an identity of a party being invoiced, the output processor obtaining an invoice destination identification from each intermediate invoice and selecting an output invoice mapping definition in dependence on the invoice destination identification; and

- an invoice transmitter device for transmitting each of the final invoices from said invoice routing apparatus to the party being invoiced;

- said input processor device further being configured to:

add static data to the data corresponding to the received invoices when processed into said standard intermediate form, the static data added in dependence on the identity of the sender and the party being invoiced;

add dynamic data to the data corresponding to the received invoices when processed into the standard intermediate form, the dynamic data added in dependence on the identity of the sender and of the party being invoiced; and,

validate the data corresponding to the received invoices when processed into the standard intermediate form before transmission by said transmitter to the party being invoiced to ensure that the party being invoiced receives the data necessary for processing the invoice.

19.(Previously Presented) An apparatus according to claim 18 wherein the static data comprises the name and address of the source of the invoice.

20.(Previously Presented) An apparatus according to claim 18 wherein the dynamic data includes a transaction code, a transaction id and the mapping definition.

21.(Previously Presented). An apparatus according to claim 18, further comprising storage means for storing said intermediate invoices produced by the input processor, said output processor receiving said intermediate invoices from the storage means

22.(Previously Presented) An apparatus according to claim 18, further comprising storage means for storing the plurality of received invoices.

23.(Previously Presented) An apparatus according to claim 19, wherein the input processor identifies a source of a received invoice, the source being a buffer location and selects an input invoice mapping definition in dependence on the source.

24.(Previously Presented) An apparatus according to claim 23, wherein the input processor produces a plurality of intermediate invoices in correspondence to a collection of invoices received together.

25.(Previously Presented) An apparatus according to claim 18, wherein the output processor obtains an invoice destination identification from each intermediate invoice and selects an output invoice mapping definition in dependence on the invoice destination identification.

26.(Previously Presented) An apparatus according to claim 25, wherein the output processor is configured to send the final invoices to a buffer means selected in dependence on the invoice destination identification.

Claims 27-29.(Cancelled).

30.(Previously Presented) An apparatus according to claim 18, wherein the received invoices and the final invoices are comprised of data files.

31.(Previously Presented) An apparatus according to claim 18, wherein the intermediate invoices are comprised of data placed in tables and stored in a database.

32.(Previously Presented) An apparatus according to claim 31, wherein each table contains data from a plurality of received invoices and each received invoice provides data for a plurality of tables of said database.

Claims 33-46 (Cancelled)

47. (Previously Presented) An apparatus according to claim 18 wherein the input processor and the output processor are configured to process the data corresponding to the invoices in layer 7 of the Open System Interconnections networking reference model.

48. (Previously Presented) An invoice routing method comprising:

- receiving data corresponding to a plurality of invoices from a plurality of sources;

- storing input invoice mapping definitions;

- providing an input processor device and configuring the input processor device for performing an input processing of the data corresponding to the plurality of received invoices, converting the data for each invoice into an intermediate invoice in a standard intermediate form having predetermined characteristics and providing the intermediate invoice in a data warehouse;

- configuring the input processor device for selecting an invoice mapping definition from the store in dependence on the sender of each received invoice and using the selected input invoice mapping definition when converting said data for the received invoice into said intermediate invoice;

- providing an output processor device and configuring the output processor device for performing an output processing for converting each of

said intermediate form invoices obtained from the data warehouse into a final invoice in a form selected in dependence on an identity of a party being invoiced,

- configuring the output processor device for obtaining an invoice destination identification from each intermediate invoice and selecting an output invoice mapping definition in dependence on the invoice destination identification; and

- transmitting each of the final invoices to the party being invoiced;

- said input processing by said input processor device further including:

- adding static data to the data corresponding to the received invoices when processed into said standard intermediate form, adding the static data in dependence on the identity of the sender and the party being invoiced;

- adding dynamic data to the data corresponding to the received invoices when processed into the standard intermediate form, adding the dynamic data in dependence on the identity of the sender and the party being invoiced; and,

- validating the data corresponding to the received invoices when processed into the standard intermediate form before transmission to the party being invoiced to ensure that the party being invoiced receives the data necessary for processing the invoice.